Lancefield- EL007460

Tenement ID	Local ID	Size (km^2)	Mapping Sheet (1:100,000)	Municipality	Current Status
EL007460	Lancefield	349	Woodend	Macedon Ranges	Application

EL007460 is located to the east of Lancefield extending south towards Sunbury and along the Mt William fault ridge

Figure 1.

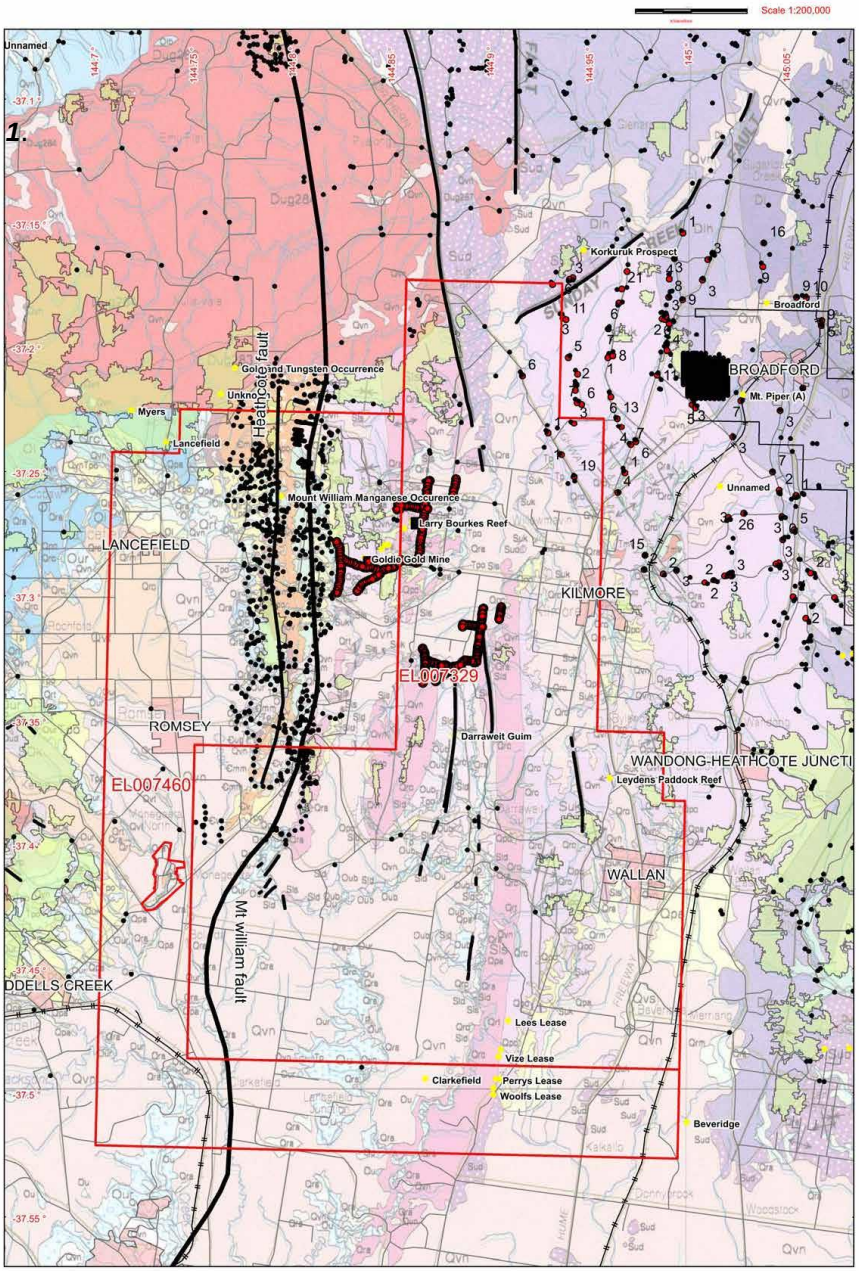

Figure 1. EL007460 location and geology. Black dots predominantly WMC stream sediment(and lesser other sampling surveys) , red dots Ngambie soil sampling programme

1.1. Regional Geology

The regional geology was descried by Krijnen, 2015:

Straddling the Mt William fault the project area is both on the western edge of the Melbourne Zone and the eastern margin Bendigo Zone of the Lachlan Fold Belt. The geology comprises marine siltstones and minor sandstones of Silurian to Early Devonian age.

Ductile deformation (Tabberabberan Orogeny) during the late Devonian within the Bendgio Zone created open folds within the Siluro-Devonian turbidites, with accompanying greenschist grade metamorphism. The regional scale folds demonstrate some degree of flexure which is related to NE-SW compression during the latter stages of the Tabberabberan Orogeny.

The Melbourne Zone is bounded to the west by the Mt William Fault, and to the east by the Governor Fault. These major faults contain fault bounded blocks of Cambrian greenstones indicative of underlying stratigraphy.

1.2. Local Geology

The principal rock types within the tenement are middle to upper Silurian sandstones and shales (Springfield and Chintin beds) and Tertiary basalt. The sediments have been regionally folded, with north-south axis and dips of 70-80^{o} (Planet 1976)
Devonian intrusions of granite and granodiorite occur to the north of the tenement and sections are covered by Newer Volcanics
The Mount William Fault intersects the tenement in the south-west corner, which is the boundary between the Bendigo-Ballarat and Melbourne structural zone ad dominated by thick sequences f sediments comprising sandstones and siltstones
Several smaller faults parallel to the Mount William fault have been mapped in the central area of the tenement. The central to western area comprises the Heathcote greenstone belt bounded by the Heathcote. and Mt Williams faults.(McMicken This volcanic belt includes tholeiitic basalts (Rossiter 1990) interbedded with several units comprising cherts, pyroclastics and sediments (Thomas el ta)

1.3. Mineralisation

Much of the recorded gold mineralisation is on the far eastern margin or directly adjacent to the tenement boundary within the Company's adjoining application EL007439.

Of primary interest is the Goldie Gold Mine located 10 km west of Kilmore. The country rock consists of Upper Silurian sandstones, quartzites and slates folded into a well-defined anticline, the axis of which strikes at 004° and plunges 25° to the south. According to J.P.L. Kenny, who examined the mine in 1934, the reef consists of an east dipping formation in east dipping beds adjacent to the anticlinal axis. Kenny also states that the country rock is mineralised carrying arsenopyrites and fine mineralised quartz veins oxidised near the surface. Gold occurs in the quartz veins, in the slate bands, and an apparent association with arsenopyrite. The mine was worked by three shafts to a depth of 120 feet.

The second occurrence of gold mineralisation in the western portion of the tenement is Larry Bourkes Reef, shown on the Lancefield geological parish plan as the Kilmore

Diggings.The mine was described by Dunn (1905) and Kenny (1934) with the below of summary of the observations from both authors:

The country rock consists of folded Silurian sandstones and mudstones striking north south. Both authors describe a fault striking east-west and dipping to the north. On the footwall of the fault is a breccia composed of large blocks of Silurian sediments commented by a matrix of finer grained material. Quartz occurs as fine veins in fracture fillings and in the matrix as small bunches. This formation was worked from two open cuts, the as small bunches. This formation was worked from the main one oriented east-west with a length of 70 m and a width of 4-17 m. From the east end of this cut a smaller one extends south for 20 m. Three shafts were sunk on the north side of the main open cut, with the deepest being hunts shaft which was sunk to a depth of 25 m with a 12 m cross cut to the formation beneath the main opencut. 85 m SW of this shaft is Rue's shaft, which was sunk entirely in breccia. North from the shaft, stoping has been undertaken on the formation on the 9, 18 and 27 levels.

1.4. Mining History/Production

Production data from the Larry Bourkes Reef between 1864 and 1868 is recorded as 1070 ounces from 5620 tonnes, with an average grade of 5.9 g/t. This figure is incomplete as the size of the open cuts indicates that considerably more tonnes were mined. (Planet, 1976)
The Goldie Mine yielded 748 ounces of gold for an average of 9.6 g/t between 1886-1888. (Planet Resources, 1976)
The Kilmore Antimony occurrence is located on the tenement with unknown production figure Oroya (2009) refer ot quartz reef mining of high grade disseminated fold in the granite near its southern contact approx. 5km north of Lancefield. Follow up on this comment is required.

1.4.1. Nearby Mining Activity

There are no operating gold mines near the tenement.

1.5. Exploration

1.6. Much of the interest in the region has been more on the Lady Burkes reef and the mines at Goldie /Larry Bourke reef or the Kilmore antimony mine (undocumented) however some attention has been given to the Mt William fault itself and the greenstone belt to the west in search of base metals associated with the volcanogenic rocks. Gold occurrences were also explored for within the granite to the north of the licence and to the southeast where minor occurrence in drilling by Rio Tinto were reported at the Cornella East Prospect.

Western Mining Corporation 1970

Western Mining completed a regional exploration programme during 1970 referred to as the Heathcote axis with comprehensive stream sediment and lag sampling programme also completed magnetic surveys and IP. More focused on Ni, Pb, Zn. Their exploration activities included drilling 1000m for 5 holes south of EL1367.

Planet Mining, 1976

Trenching was completed across the breccia south of the open pits associated with the Larry Bourke's Reef as well as sampling of the shaft and adits.. 230 m of trenching was completed with 77 30 kg samples taken along with 24 adit and stope samples from the Rues Shaft at the Larry Bourke's Mine. Results from the trenching were low, consistently below 0.2g/t. .Results from the adit and stope sampling were also low, falling within the 1.4-2.0g/t range. It has been proposed that a majority of the grade was adjacent to the fault bounding the breccia on the north side. (Planet Resources, 1976)

CRA Exploration Pty Ltd, 1981-1986

CRa in 1982 focusing on the eastern side of the Mt William project area were seeking alluvial deep lead hosted gold .The company completed a total of 13 RC holes and 17 cable tool holes which despite intersecting auriferous material resulted in disappointing and erratic grades. Details of the drilling can be found in the Kilmore report

Rosscraft Minerals 1983 – 1988

There is some confusion over the filed reporting by Rosscraft which appears to be similar to pervious CRA reports and may have been as a result of joint venture. Rosscraft as a company however did not consider sufficient success warranted drill testing

BHP Minerals 21980- 1986

Extensive work was carried out by CRA throughout the region. Their target was disseminated gold sulphide seen in association with quartz cemented sandstone breccia. Both gold and arsenic were found elevated in coarser sediments with an associated pyrite/sericite alteration

Stream sediment sampling proved inconclusive with the best drill interaction of 50m @1g/t,/ The location of this drilling is still under investigation

Perseverance Mining 1992 – 1993

Seeking Ngambie style mineralisation the Company explored over the Lancefield/Kilmore area regionally. Despite extensive stream sediment sampling the Company failed to locate any strong anomalies. Mapping did reveal significant fold patterns but were focused specifically on the Ngambie style and considered the folding not conducive to developing mineralised structures they were seeking.

Metex 1995

Work completed on the historical EL3573 tenements part of which covers the application area. The focus for Metex was the western margin of their tenement focused on Mt William. Other than desk top studies, the company's activities focused on stream sediment sampling along the Mt William range. Results were inconclusive

Barrack 2005.

Their exploration licence overlapped the eastern portion of the current application competing desktop studies only before relinquishment their report noted low level results in stream sediment sampling without further location detail and no further follow up

Oroya Mining 2009

Initial exploration by Oroya at their Mt Piper project saw the collection of stream sediments over the very northernmost part of the current application (historical licence EL4947) the Company failed to find sufficient positive results to continue to explore

Nagambie 2014-2015

In 2014, a Geochemical sampling program was conducted on roadsides verges on the south western portion of the tenement, proximal to historic mining areas. The highest gold value of 21 ppb was taken from Diggings Road reserve. Another two elevated results were taken along Diggings Road, including a 3 ppb and a 9 ppb. Elevated arsenic levels were associated with the 21 ppb and 9 ppb gold results but did not show elevated antimony. The 3 ppb gold result had high antimony and low arsenic. A further sample taken along the Old Kilmore-Lancefield Road returned 4 ppb which was not associated with elevated arsenic or antimony levels. (Krijnen, 2015)
Elevated arsenic results were common in the soil program with a cluster of elevated results on the corner of Diggings and McHargs Road along with McGraths Lane. These samples roughly show the trends between the historic mines in the area. Three samples returned elevated antimony values with a sporadic distribution.
The soil geochemistry indicated a few areas showing anomalous gold, mostly along Diggings Road. This area corresponds to historical alluvial gold workings.
Elevated arsenic values show a trend which matches the trend of the historical workings in the area.

Most other tenement holders have focused on other areas outside of EL007460 when holding ground covering this tenement.

1.7. Exploration Strategy

Structurally controlled mineralisation is a primary focus about the length of the Mt William and Heathcote fault. Abundant stream sediment data form previous explorers is available for further geochemical analysis particularly for gold and its pathfinders bearing in mind the original surveys we focused on base metals associated with the volcanic rocks of the Heathcote/ Mt William zone. Further work could comprise

- Review existing geophysical data to confirm position of the fault
- And more detailed sampling using MMI techniques for the area under cover particularly along strike form the Goldie mine.

The Costerfield Goldfield is located 35km from the tenement. Mandalays Costerfield Gold-Antimony mine is located close to parallel faulting to of the Mount William Fault on. A strategy for exploring this style of mineralisation would consist of;

- Identifying faults parallel to the Mount William Fault in a similar setting to Costerfield
- Review existing geochemical data to identify any possible gold/antimony anomalies
- Conduct geochemical sampling programs over any faults or anomalies identified as prospective.

1.8. References

DICKINSON L (1995) Annual report for the year ending April 1995 Metex Resources NL

DUNN E.J, 1905. The Kilmore Gold Diggings; Occurrence of Gold in Oliver's Paddock, Near Kilmore; Gold Mining at Goldie, Near Kilmore. Geological Survey of Victoria Volume II, Part 1, 1905.

KENNY J.P, 1936. Goldie Deep Lead, Kilmore; Goldie Mine, Goldie, Near Kilmore. Geological Survey of Victoria, Volume V, Part 1, 1934.

KRIJNEN. J, 2015. Nagambie Mining Ltd. EL5516. Lancemore Project. Annual Report for the period ending 30 June 2015.

MCMICKAN PJ (1995) Annual report for EL3751 Chapman Hill ending April 1995 Metex resources NL

PLANET GOLD LIMITED 1967. Western area incorporating El 17, 22) December 1967

SWENNSON C.G, 1981. CRA Exploration Pty Ltd. EL872. Sugarloaf Creek Project. Progress Report for six months ending 30 June 1981.

ROSSITER AG, 1990. Rosscraft Minerals Pty Ltd Final report on exploration Licence 1367 .

THOMAS D.E; SINGLETON O.P (1956) The Cambrian Stratigraphy of Victoria pp 149-163